

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPL. NO.: 10/708,571
APPLICANT(S): Peng Lee
FILED: March 11, 2004
TITLE: NONDESTRUCTIVE RESIDENTIAL
INSPECTION METHOD AND APPARATUS
TC/A.U.: 2859
EXAMINER: JAGAN, Mirells
DOCKET NO.: 026018.50271

DECLARATION UNDER 37 CFR § 1.132

I, Rick Hynum, hereby declare that:

1. I, Rick Hynum, am the Vice President of Communications for HomeSafe Inspection, Inc. which is the owner by assignment of all of the rights, title, and interests in this patent application.
2. As evidenced by the documents appended hereto, there has been a long-felt need in the industry and professional approval of the presently claimed invention.
3. Appendix tab A: This is a selection from an article in the *Houston Community Newspapers* dated March 10, 2005. The title of this article is *Safeguard: Houston Company Revolutionizes Home Inspection Process*. In this article, the owner of Top Guns Realty, the county's largest independent real estate office, states the infrared and acoustic technology used by HomeSafe is "the greatest thing since sliced bread." This description of the invention shows that it is new in the industry and satisfies a long-felt need in the industry for such a product.
4. Appendix tab B: This article is from *The Daily Journal*, dated July 13, 2003, entitled "A Better Mousetrap." This article states that "because HomeSafe has previously untapped talent for pointing out flaws, some people in the home selling process might flinch at so detailed an inspection. But the company's CEO said HomeSafe often turns the table in the opposite direction."

5. Appendix tab C: Gadgets and Gizmos, The Communicator Magazine Winter 2004, notes that "We've gathered up some of the latest and greatest so that you can see what's new in 2004 . . .". The author reviews the HomeSafe process as one of the latest and greatest.

6. Appendix Tab D: This is an article in the Commercial Appeal dated April 26, 2004. It is noted that "While infrared technology isn't new to the home inspection business, it's never been as mobile or paired with the acoustic component HomeSafe offers."

In the same article Don Merritt, the president of the American Society of Home Inspectors states that: "Infrared has been around forever," (Don Merritt, president of the American Society of Home Inspectors) said, "but it used to require 20 to 30 degrees difference in temperature to get a good reading."

7. Appendix Tab E: This is an article from The Clarion Ledger, July 29, 2003, in this article it notes that, "Technologically, I'm quite impressed because they've shown moisture in a wall that roofers said they've fixed three times," said (Bill) Ridgway, secretary and treasurer of (Ridgway Management, Inc.). Despite the roofer's best efforts, the infrared scanner found the moisture because it can pick up things human eyes cannot see. "It allows us to see what we heretofore have not been able to see," Ridgway said.

8. Appendix Tab F: This is an article from the Oceans Springs Record dated March 11, 2004, entitled HomeSafe Inspection Takes Home Inspections to a New Level. In this article, it is stated that: "HomeSafe Inspection takes home inspections to a new level. The high-tech business uses infrared technology, listening sensors and traditional visual techniques to give clients the most comprehensive reports available on their homes."

9. Appendix Tab G: This is an article from the Northwest Florida Daily News, dated December 5, 2004, entitled Headline: Inspections Superman-Style. "Agent Robbie Fenn of RE/MAX Southern Realty likes the added protection offered by Phillips' sophisticated equipment. It takes the liability off of me," she said. "And (knowing of the defects) benefits both the buyer and the seller."

A

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Business

Safeguard: Houston company revolutionizes home inspection process

By: HOWARD RODEN, HCN/ Courier staff 03/10/2005

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Photo by Jerry Baker

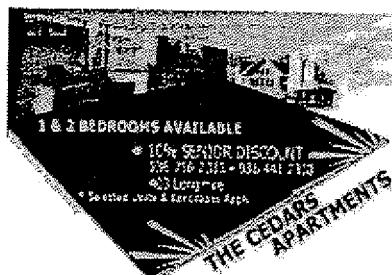
Long before the advent of X-ray and MRI machines, a doctor could only prod, probe and sometimes cut into his patient in order to learn the precise nature of an illness. In many respects, home inspections today rely on that same methodology. When checking the worthiness of a home, quality inspectors do a thorough visual inspection. They root around in its nooks and crannies, looking for tell-tale signs that may - or may not - indicate a problem in the roof, with the foundation or in the electrical or plumbing systems.

Long before the advent of X-ray and MRI machines, a doctor could only prod, probe and sometimes cut into his patient in order to learn the precise nature of an illness.

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Occasionally, inspectors will perform "exploratory surgery" on a house to confirm a suspicion, such as an

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infestation of termites. But in most cases, inspectors have been limited by their inability to see and hear through walls.

Not anymore.

Thanks to a former University of Mississippi scientist, home inspections are finally entering the 21st century. Peng Lee developed a revolutionary system of customized infrared cameras, an ultra-sensitive acoustic sensor and sound recognition computer software that has removed virtually all of the guesswork from home inspections.

With Lee's technology, a home inspector literally can "see through walls." The infrared cameras detect variances in temperature that can reveal "hot spots" due to faulty electrical wiring or an accumulation of moisture. The moisture could be evidence of a water leak, mold or termites.

The listening device, which contains a needle-like probe that can be inserted into sheet rock without discernable damage, confirms the presence of termites and other pests.

But this technology isn't restricted to the laboratory. Lee, along with fellow Ole Miss alum Kevin Seddon, formed HomeSafe Inspections Inc. in 2003, and their company has blossomed like a Mississippi magnolia, with franchises and licensees in 19 states, including Texas. Since Lee invented his device while at the University of Mississippi, the school receives a portion of HomeSafe's franchise and licensing fees.

HomeSafe has both franchises and a corporate-owned unit in Houston, and the company is looking to expand in this market.

"Houston's real estate market is healthy and growing," said Seddon, who is HomeSafe's president. "It's a great fit for us."

Montgomery County, with its current boom in residential construction, is an attractive target, said Van Vanlandingham, sales director for HomeSafe's Houston office.

"Our technology helps both the seller and the buyer (of homes)," he said. "Presale inspection helps the seller know the exact condition his home is in, and if there is any need to repair any damage our inspections detect. The buyer is protected because he has a complete, detailed report on the home's condition. It's a true win-win situation."

No one knows that better than Bill McIlwain, a co-owner of Prudential Gary Greene Realtors, one of Houston's largest real estate companies. McIlwain became aware of HomeSafe about 18 months ago when he and Vanlandingham had a chance encounter on the golf course.

McIlwain was looking to purchase a 4,850-square-foot home that had been empty for five years.

"I was buying it for my personal use, and it was a large home with a lot of leaks and potential problems," he said. "I wasn't sure I wanted to buy it until I knew just how extensive the problems were."

A high-tech HomeSafe inspection revealed the problems were not as detailed as McIlwain had feared. "Last June, I was looking at buying a home as a rent house," he said. "It also had some leaks, but they

(HomeSafe) came out and their inspection made me realize there were no major problems. The problems were easy to fix, and I quickly rented the home."

As a satisfied customer, McIlwain has encouraged members of the Gary Greene sales force to embrace the new technology. Nikki Owen, sales manager at Gary Greene's Fort Bend County office, recently hosted a HomeSafe demonstration for about 50 agents.

"It really is the wave of the future," she said. "We would certainly recommend to any buyer and seller. The more information a buyer can have about a house, the better off they're going to be."

A comprehensive inspection like HomeSafe's reduces the threat of lawsuits, Owen said.

"This allows any concerns about the home to be brought to the forefront and become resolved before any sale," said Owen, adding that "many" of her agents have begun recommending HomeSafe inspections to buyers.

Although HomeSafe has yet to reach Montgomery County, local broker Keith Robertson is eager for a demonstration. Owner of Top Guns Realty, the county's largest independent real estate office, Robertson believes the infrared and acoustic technology used by HomeSafe is "the greatest thing since sliced bread."

"I'd like to talk with them about that," he said. "That kind of technology is spectacular."

Spectacular is an apt way to describe how Lee's system - which is patent pending - works. Infrared technology is nothing new; it has been used in the U.S. military for decades. But many of those systems require a temperature difference of 20-30 degrees.

HomeSafe's infrared unit, which is manufactured by Raytheon, works in an environment with no more than a 10-degree temperature difference. The camera is so sensitive at detecting heat transference, a hand placed on a wall for as little as five seconds leaves a clearly defined handprint on the camera's monitor.

If the camera is aimed at a wall long enough, wall studs and even nail heads in the sheet rock are discernable, said Mike Poth, one of HomeSafe's Houston inspectors.

"We've completed an inspection on one existing home where we discovered there wasn't one piece of insulation in the walls," Poth said. "But the most important discovery is fire safety. A lot of times, people don't realize a dimmer switch is overheating and could start a fire."

That is why Poth and fellow inspector Gus Smith recommend periodic preventative home inspections.

"The only time most people do a home inspection is when they buy a house," he said. "That's like going to a doctor once in your lifetime and assuming you'll never get sick."

Smith stressed that HomeSafe's technology does not replace the conventional home inspection methods, but merely enhances them.

"A conventional home inspection can see about 33 percent of the home. Our inspections expose at least another 30 percent," he said. "A lot of the time, our technology merely confirms what our visual inspection suggests."

A HomeSafe inspection takes an average of 2 1/2

hours, and rates for an inspection start at \$200 for a home up to 2,000 square feet (including garage). HomeSafe's rates are comparable to those of a conventional inspection, Robertson said. HomeSafe also donates a portion of its Houston inspection fees to Houston-based Sunshine Kids. Business is booming for HomeSafe, and not just because of its revolutionary technology. Money Magazine rated the home inspection industry as one of the "Top 10 Highest Income Home Businesses (over \$100,000 per year)" and among "America's 50 Hottest jobs."

Vanlandingham said franchises are available in the Houston area, with \$12,000 as the normal startup fee. "With one franchise for every 40,000 households, we're definitely looking for inspectors," he said. "Once the word gets out, everyone will want this type of inspection."

For more information about HomeSafe and its infrared technology, call Vanlandingham at (713) 858-2708 or Gus Brandt, professional inspector, at (281) 481-2580, or visit www.homesafeinspection.com.

Howard Roden may be reached at
hroden@mail.hcnonline.net.

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A better mousetrap

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BY GARY PERILLOUX

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Daily Journal

OXFORD - What distinguishes HomeSafe's method of home inspection from other approaches?

"We have a better mousetrap," says inventor Peng Lee.

And mice are one thing Lee knows how to find.

On a recent morning-long inspection, Lee pointed his infrared camera upward and there, in the attic's pink insulation, nestled the furry forms of rodents. Baiting, traps and barring access points are potential mousetrap solutions to a common problem.

Lee points out "\$10 problems" but says he's most interested in detecting the potential \$5,000 problems that can save parties to a home transaction lots of time, grief and money down the road.

Lee's "Ghostbusters"-like battery of cameras, sensors, ultrasound microphones, Pocket PCs and

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"The software will make the call," Lee says. "So I take the human error out of it."

But human intelligence in the form of state-licensed inspectors who go through additional HomeSafe training is essential to the process. Visual inspections, flashlights, deductive reasoning and homeowner counseling are part of the inspection process.

"I'm a scientist," Lee says. "I want to find the reason behind (the problem). We use the technology back and forth in a home inspection."

Inside walls, Lee's infrared camera can pinpoint sources of heat-loss and acoustic sensors can hear termites crunching. On the recent inspection, Lee eliminated one heat-loss situation by noting cold air coming from a floor register.

SPECIAL SECTIONS

Business Journal



PHOTO GALLERIES



Water stains near a window turned out to be superficial, with no sound of termites in the wall. He did pick up "hot spots" at wall receptacles where wiring standards weren't up to the load they were carrying and recommended electrical work to prevent a fire.

In a second-floor attic with finished floors and walls, Lee recommended carbon-monoxide detectors because a gas hot-water heater inhabited the living space there.

Because HomeSafe has previously untapped talent for pointing out flaws, some people in the home-selling process might flinch at so detailed an inspection. But the company's CEO said HomeSafe often turns the table in the opposite direction.

"We've saved so many deals," Kevin Seddon said. "The more you know, the better off everybody is."

One grand old Oxford home sat on the market for years, rejected multiple times by buyers after visual inspections led to conjecture about a bad roof.

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"We went to the house, shot the infrared up through the ceiling and there was no water, no moisture (at the roof level)," Seddon said.

At a lower level, though, moisture from an overhead uninsulated air duct had dripped through and stained the ceiling. After \$300 of insulation, the house was cleared for a sale.

"That house didn't sell for three years because people thought the roof was bad," Seddon said.

*Appeared originally in the Northeast Mississippi Daily Journal,
7/13/2003 8:00:00 AM, section F, page 1*

C

HOME SAFE INSPECTION™

Gadgets and Gizmos

The Communicator Magazine
Winter, 2004



Gadgets and Gizmos: What's New for 2004

As the New Year gets off to a speedy start, an assortment of new products are being introduced to the industry. We've gathered up some of the latest and greatest so that you can see what's new in 2004...

...HomeSafe Unveils New Technology for Home, Termite Inspections

Oxford, Mississippi based HomeSafe Inspection, Inc. has developed a new home inspection technology that allows an inspector to virtually "see" and "hear" through a house's walls, floors and ceiling, uncovering signs of damage and potential problems that likely would go undetected in an ordinary visual inspection. The HomeSafe technology combines advanced thermal imaging (infrared) and acoustic (listening) sensors along with a PocketPC equipped with specially designed software.

The inspection process begins with a thorough infrared scan of the property's walls, ceilings, floors, plumbing and wiring. Differences in temperature show up as thermal variations, which provide the inspector with vital information about problems like energy loss, faulty wiring, water damage, roof and pipe leaks and structural deficiencies.

In addition, an infrared scan may detect signs of moisture which suggest the possibility of termites. In that case, HomeSafe employs its high-tech acoustic sensors (patent pending) which can actually detect termite noises that the human ear cannot hear. If questionable noises are detected, the signals are fed into a PocketPC equipped with specially developed pattern recognition software (patent pending) that recognizes and identifies termite sounds. The result: If termites are there, the inspector will almost always be able to "hear" them and pinpoint their exact location for better treatment. HomeSafe's technology has been reviewed by leading scientists in the areas of termite and pest control. For more information call (866) 327-7233 or visit www.HomeSafeInspection.com.

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D



By Karen Pulfer Focht

Peng Lee, of HomeSafe Inspection, uses his thermal imaging camera during a home evaluation. His infrared and acoustic sensor technology allows inspectors to see and hear through the walls, floors and ceilings, uncovering flaws mere visual inspection may miss such as hidden water leaks, faulty wiring, termites and even places where energy is being lost. HomeSafe now has three franchises in Shelby County.

New insight on inspections

HomeSafe sensors detect flaws

By Jane Roberts

roberts@commercialappeal.com

Home inspectors have only two eyes like the rest of us, and when it comes to buying a home, lots of people would pay for deeper insight.

HomeSafe Inspection uses infrared and acoustic sensors to see and hear through the walls, floors and ceilings, uncovering flaws mere visual inspections may miss — water leaks, faulty wiring — even places where energy is being lost.

Termites are a dead giveaway. In HomeSafe's acoustic equipment, they sound like an army gnawing on Fritos.

"That sound is very disturbing to homeowners," said Kevin Seddon, president of the Oxford, Miss.-based HomeSafe. "When they hear that, they say, 'How long do I have?'"

While infrared technology isn't new to the home inspection business, it's never been as mobile or paired with the acoustic component HomeSafe offers.

Peng Lee, HomeSafe's vice president of technology, originally developed it at the National Center of Physical Acoustics at the University of Mississippi for pest control. Seddon quickly saw the potential in the home inspection market.

"We can find structural problems and insulation deficiencies," he said. "We can find mice and rats. We've been called in to find rac-

coons stuck and skunks stuck in vents."

In Shelby County, HomeSafe charges about \$300 to inspect a 2,000-square-foot home, said Margaret King, director of sales.

For an annual home protection plan, HomeSafe charges \$150 for the same square footage, testing homes for hazards to children or senior citizens.

"We'll come back up to three times in a year," King said. "So if a storm hits and people think they've got a leak, they can find out for sure."

HomeSafe is making a buzz in real estate. It's on the Crye-Leike referral list, and longtime broker Ed Beasley is getting calls.

"I'd be inclined to call these people in if a problem shows up on a routine inspection," he said.

Don Merritt, president of the American Society of Home Inspectors, said the industry has long used technology, including ultrasound tests.

"Infrared has been around forever," he said, "but it used to require 20 to 30 degrees' difference in temperature to get a good reading."

It doesn't anymore.

If the average home inspector can see 33 percent of the home, infrared capacity exposes another 30 percent, Seddon said.

"This has saved many, many house deals because it can ascertain the extent of the damage," he said. "If you have a stain in the

HOMESAFE INSPECTIONS

■ Top executive: Kevin Seddon, president

■ Business: Home inspection

■ Corporate office: 604 S. 16th St., Oxford, Miss.

■ Local Franchises: Olive Branch, (662) 404-6631, Memphis 753-5858, Oxford, Miss. (662) 236-1232

■ Web site: www.homeSafeInspection.com

"Being able to see through one more layer is a tremendous advantage."

— Peng Lee

ceiling, through our technology, we can tell you if it's an active leak or track the moisture back to its source. A drop of water will show."

Last week, drops of water showed as dark blobs in a steady dribble from the front door to the kitchen at Susan and Phil Fentress's home in East Memphis.

Lee expected it was saliva from a family dog.

"Being able to see through one more layer is a tremendous advantage," Lee said.

The Fentresses hired HomeSafe to make an infrared sweep of their 2,800-square-foot home.

"We've done a quite a bit of renovation, and we don't really know if the electrical work was done cor-

rectly," Susan Fentress said.

Wiring in the downstairs bathroom showed up perfectly — running in a straight, glowing line from outlet to fixture — and cool, too.

The studs in the walls were as even and strong as ribs in the ark. No water was accumulating or had accumulated under the sinks.

But Lee found what looked like mice nests in the ceiling, a widening moisture seepage in a downstairs closet and loose insulation, accounting for what the Fentresses say are high MLGW bills.

The technology works by reading heat-absorption levels, showing a hot white glow where electricity escapes harmlessly around light sockets. In a corner, the clothes dryer — cooling after a load of wash — glowed like small refrigerator with the door left open.

It took Lee and another technician 2½ hours to inspect the home, which included a thermal scan, a visual inspection and an acoustic scan.

In a year, Seddon has sold 30 franchises in the tri-state area — including three doing business in Shelby County — plus a scattering of outlets in Alabama, Florida and Oklahoma in a business he expects to break wide open.

In three years, he estimates HomeSafe will have more than 200 franchises, based on sales now. Each franchisee must be certified by the American Society of Home Inspectors and complete HomeSafe's six-day training.

E

Revolutionizing home inspections

Infrared scanner sees what eyes can't

By Arnold Lindsay
arnold.lindsay@clarionledger.com

Bill Ridgway thought the termites were gone and the leaking roof was fixed.

But an infrared scanning device and acoustic sensors showed problems still existed at the 76-year-old Capitol Street building in Jackson that houses Ridgway Management Inc.

The device, which Peng Lee began developing when he was researcher for the University of Mississippi National Center for Physical Acoustics, allows inspectors to stare through most walls and floors, much like an X-ray. The equipment can spot termites, view electrical wiring, and detect moisture and other pests.

"Technologically, I'm quite impressed because they've shown moisture in a wall that roofers said they've fixed three times," said Ridgway, secretary and treasurer of the company.

Despite the roofer's best efforts, the infrared scanner found the moisture because it can pick up things human eyes can not see.

"It allows us to see what we heretofore have not been able to see," Ridgway said.

The patented technology is used by Oxford-based HomeSafe Inspection Inc.

Lee began working on the device while at Ole Miss and finished it after becoming co-owner of HomeSafe Inspection.

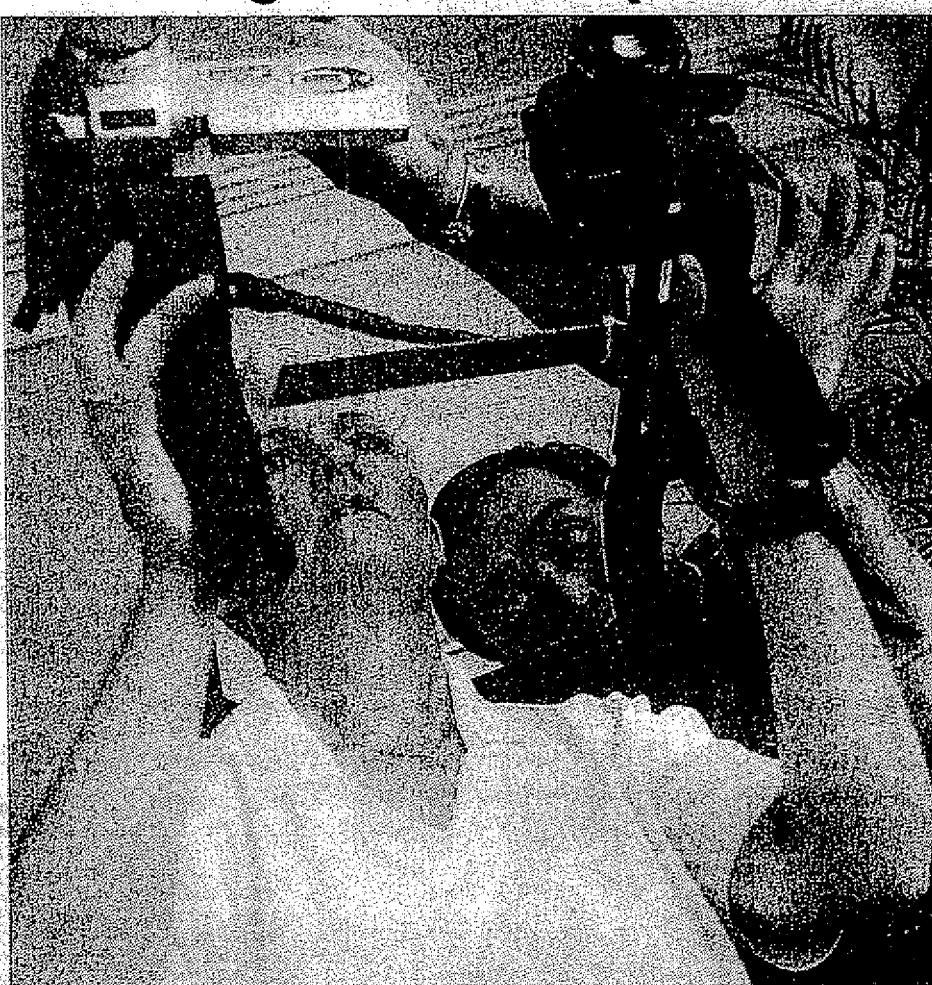
"My goal is to see the homeowner get the best service," said Lee.

Lee estimates as much as \$700,000 was spent by the school to develop the technology. In exchange, Ole Miss will receive royalty payments from a portion of the proceeds home inspectors earn on the device. The school also holds the patent.

"This device, under the right conditions, can help show where they are," said Brown, secretary-treasurer of the Mississippi Pest Control Association. "It adds another level of checking. I think overall it's something that will be of use to homeowners — consumers."

Ridgeland home inspector Pam Pybas, the only person trained and licensed to use the device in this region, will start making it part of her regular inspections this week.

It costs an extra \$300 to



Joe Ellis/The Clarion-Ledger

Pam Pybas and Peng Lee of HomeSafe inspection service of Oxford use an infrared sensor to screen problems such

as moisture behind walls Monday afternoon in Judy Johnson's home in the Belhaven district of Jackson.

Technology
The technology works in part by reading the temperature differences inside a wall and allowing inspectors to view "distinctive patterns" left by termites.
Insertion
Insertion of an acoustic probe into areas where termite habitats have been found gives an audio confirmation of their presence.

examine a 2,000-square-foot house with the device. The price increases as the size of the structure gets larger.

It takes a little more than two hours to physically inspect a 2,000-square-foot structure, and an additional 30 minutes to electronically peer through the ceilings, floors and walls, she said.

"I'm booked this week already. The word is out," Pybas said. "Why would you not want this?"



Joe Ellis/The Clarion-Ledger

Peng Lee of HomeSafe inspection uses a special sensor to listen for termites at the Judy Johnson home.

So far, nine other inspectors have been licensed or plan to be licensed by Homesafe in Mississippi and surrounding states, Seddon said. He said licensees will have protected areas.

First American becomes Liberty

■ Merger of New Orleans, Jackson banks complete

By Neil Lutter Floyd
neil.floyd@clarionledger.com

Call the phone number for First American Bank, the state's only minority-owned bank, and you'll find it's now answered, "Liberty Bank."

"We are now officially Liberty Bank," said Mary Ann Franklin, president and chief executive officer of First American Bank. "We're now calling it Liberty Bank, First American Branch."

New Orleans-based Liberty Bank & Trust Co., one of the 10 largest African-American-owned commercial banks



Franklin in America, mailed First American Bank shareholders on Monday a letter from Alden J. McDonald, president and chief executive officer of Liberty Bank, to let them know the merger is official and that they can now surrender their stock certificates. Each shareholder will receive \$3.30 per share of stock.

"It's official but the regulators still have to send us a certificate of merger," McDonald said. He expects to receive the certificate of merger this week.

The merger gives consumers access to larger loans than those available from 10:

See LIBERTY, 2C

Amtrak reform plan travels to Congress

The Associated Press

WASHINGTON — The Bush administration says ending Amtrak's monopoly on intercity passenger rail service would result in reliable trains running shorter distances between cities relieving congestion on high ways and at airports.

But such a transformation will require a "leap of faith" that it will work, according to senior Transportation Department officials who briefed reporters about a bill to restructure Amtrak.

The proposed legislation

■ Details of the Amtrak

Telemarketing industry sues FCC over do-not-call list

F

HomeSafe Inspection takes home inspections to a new level

By MELISSA SCHNEIDER

Staff Writer

HomeSafe Inspection takes home inspections to a new level.

The high-tech business uses infrared technology, listening sensors and traditional visual techniques to give clients the most comprehensive reports available on their homes.

By using a infrared camera a HomeSafe inspectors can see inside walls, ceilings and floors to detect existing problems.

"We can see what no one else can see," said Bob Rushing, a co-owner of the business.

Temperature differences picked up on the camera allow inspectors to detect problems that range from energy loss and electrical issues to water damage and termite activity.

"They have trained us to interpret these (infrared camera images) in a similar fashion that one would interpret X-rays," Rushing said.

After screening for structural problems, moisture concerns, pipe and duct work

leaks, insulation deficiencies and a number of other potential problems, inspectors follow up with in-depth visual inspections.

They pay special attention to areas identified as potential problems during the infrared inspection.

The traditional visual inspection follows HomeSafe Inspection to determine the causes of moisture, excessive heat and other suspicious conditions.

If the camera detects possible termite activity, HomeSafe inspectors use acoustic sensors to

determine if the pests are present.

By pushing a needle-like sensor through the wall or inserting it between the floor and the wall, inspectors can detect termite noises that the human ear cannot hear. Questionable sounds are fed into a PocketPC, and software unique to HomeSafe can recognize and identify them.

"You can hear them chewing on the house," said Ryan Rubenstein, co-owner of the

Homesafe Inspection

BUSINESS IN A FISHBOWL

Business in a Fishbowl is a weekly feature that focuses on a local business. Each week's business is drawn from our fishbowl of business cards. To enter your business in the drawing, ask one of our staff to drop your card in the bowl, bring a card by our office at 715 Cox Ave., or mail us a card at PO Box 1650.



RECORD/Melissa Schneider

Ryan Rubenstein, left, demonstrates how to use an infrared camera during a home inspection while Bob Rushing checks for termites with a high-tech acoustic sensor. Rubenstein and Rushing recently opened a HomeSafe Inspection franchise in Ocean Springs. The business partners offer the most technologically advanced home inspections available.

business.

Since the Ocean Springs HomeSafe Inspection franchise opened last month, most of its clients have stemmed from people planning real estate transactions.

"When a person selling a home, it's good a marketing point to have an inspection," Rushing said.

Prospective buyers also benefit from letting HomeSafe perform home inspections.

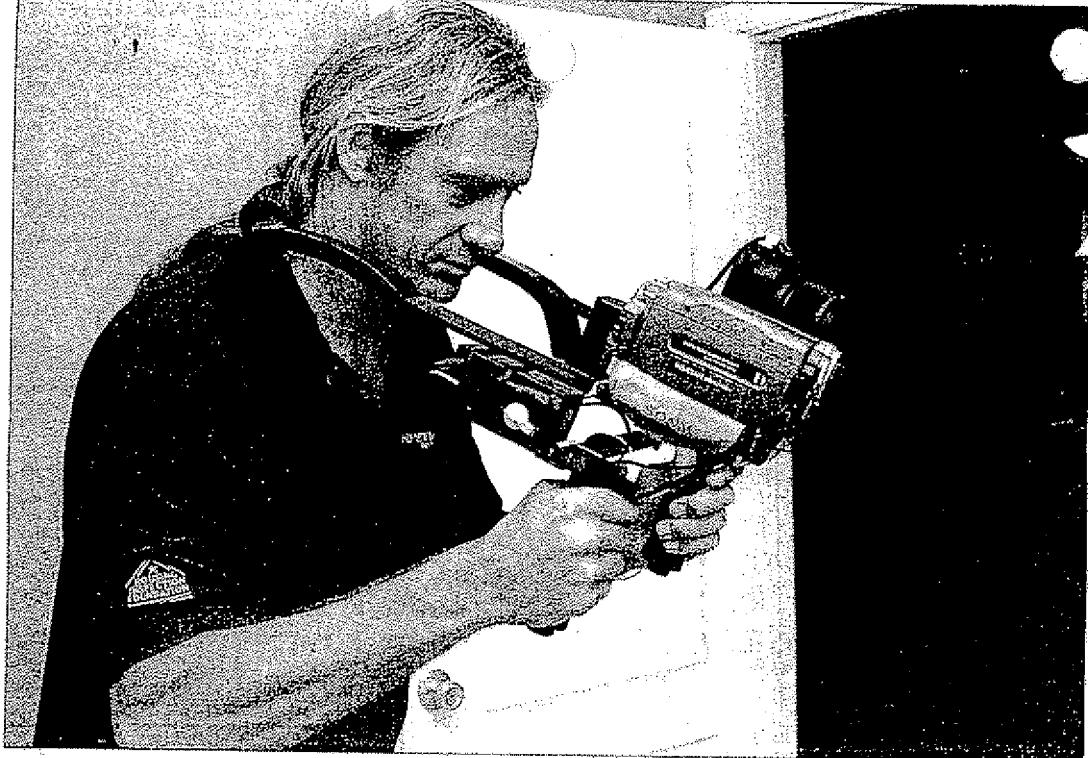
"We also can ascertain any

future expense that may have to go into the home," Rushing said. "They are getting more home inspection for their money. We are the most technologically advanced on the market."

HomeSafe Inspection is Mississippi licensed, insured and bonded, and all inspectors have a minimum of 300 hours of training.

For information, contact Bob Rushing at 257-9445 or Ryan Rubenstein at 257-9585.

G



Daily News/DEBI HAUSSEMARSH

Kenny Phillips, a home inspector with HomeSafe Inspection, examines a room with an infrared camera. The camera allows the inspector to see inside the walls and spot damages not visible to the naked eye.

Inspections Superman-style

By JONI WILLIAMS

Daily News Contributing Writer

It's a bird. It's a plane. No, it's Kenny Phillips, home inspector.

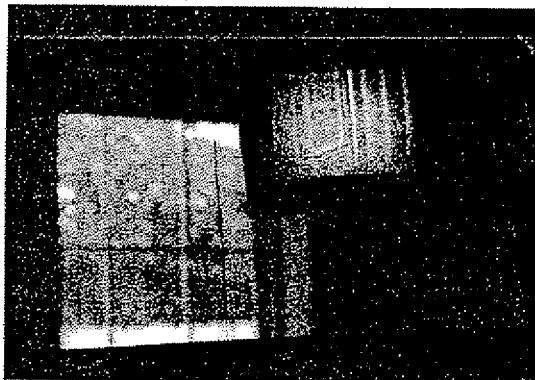
While he may not be faster than a speeding bullet or able to leap tall buildings in a single bound, Phillips is able to see and hear through walls.

"They said Superman had X-ray vision, but what he really had was infrared vision," said Rich Hynum of HomeSafe Inspections. "Our infrared cameras allow us to see through walls just like Superman."

Because of this visual advantage, HomeSafe inspectors such as Phillips are able to find an array of concealed defects that might otherwise go undetected. Common problems that can be uncovered include faulty wiring, moisture intrusion, leaky pipes and inadequate insulation.

Arguably the most notable attribute of an infrared-aided inspection is its ability to uncover termites, whose nests often cannot be located with the naked eye unless a wall is taken down to the studs.

"It tells us where to check with the acoustic probe," said Hynum, pointing out the probe that lets



Daily News/DEBI HAUSSEMARSH

Wall studs and a corner window are visible in this infrared image. Infrared imaging can detect structural damage, air leaks, water damage and termites without tearing into the walls.

inspectors hear into the wall. "If there are termites in the wall, you can hear them. They make a very distinct sound; it's almost like knocking."

If the camera produces a round or tubular image it signals a possible water source which in turn may

indicate termites. An acoustic probe is then used to listen for noises produced by the pests.

The termite-talk is then rendered to special sound pattern recognition software used to determine the termite's species.

Hynum cautions the procedure

isn't meant to replace traditional treatment procedures or even pre-purchase termite inspections.

Rather, he says, the detection process works to alert exterminators of their presence and aid in their elimination.

"We are able to detect them before they have done damage," Hynum noted.

Even though the process is proving beneficial for Floridians prone to termites, the inspectors also deliver a traditional comprehensive home inspection that reports on the overall functionality of a home.

"We are not trying to ignore traditional home inspection practices," said Phillips, who heads HomeSafe Inspection's Northwest Florida office. "We just have the ability to look into the wall."

Agent Robbie Penn of RE/MAX Southern Realty likes the added protection offered by Phillips' sophisticated equipment.

"It takes the liability off of me," she said. "And (knowing of the defects) benefits both the buyer and the seller."

As with a traditional home inspection, Phillips checks the

Please see STYLE/G3

STYLE

From G1

plumbing, electrical, mechanical, roofing and exterior components of a home. However, home inspections always begin with a thorough infrared screening.

Because infrared essentially creates a visual image by measuring heat, Hynum said temperature variations may indicate wet spots within a wall. This in turn can alert inspectors to the potential for mold as well as the possibility of termites that transport water to their nesting sites.

"Termites and mold go hand-in-hand," he said.

Water intrusion can cause other headaches as well, particularly with EIFS siding. That's why Destin homebuyer Casey Graham opted for the infrared inspection when he recently contracted a home with the stucco-like siding.

"They let you look through the camera as they're doing the inspection," he said. "You can visually see where the water is

rather than just see a moisture meter go off."

According to HomeSafe, subtle roofing and pipe leaks can be detected with infrared, as can faulty wirings and structural deficiencies. Rodents such as rats or squirrels that like to nest in walls or roofs are also revealed.

While ordinary gypsum walls allow for the procedures, other types, such as solid concrete, defy infrared's see-through ability.

Phillips said an inspection of an average-sized home lasts about three hours and costs between \$250-\$300. HomeSafe inspectors adhere to the standards and practices of the American Society of Home Inspectors and must pass a national test before completing a week-long infrared training session.

"Ideally you want an inspector with a construction background," said Phillips, who said his years in the industry fits the bill. "But even with all of the experience, you cannot detect the things that this camera can."

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Please confirm receipt of the documents described below by applying your date stamp.

Applicant: Peng Lee
Date: March 11, 2004
No.: 10/708,571
Title:

Enclosed please find:

1. RCE;
2. Amendment;
3. Declarations of Peng Lee and Rick Hynum;
4. Check in the amount of \$395.00; and
5. Return Post Card

Date: April 4, 2006

Attorney Docket: 026018.50271

REFERENCE	INVOICE DATE	INVOICE NO.	AMOUNT	DISCOUNT	NET AMOUNT
026018.50271 filing fee (Terri Warner) <i>RCE Home Safe</i>	4/4/2006		395.00		395.00

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BUTLER, SNOW O'MARA, STEVENS & CANNADA, P.C.

ATTORNEYS AT LAW

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,571	03/11/2004	Peng Lee	026018.50271	2570
28172	7596	02/14/2006		
BUTLER, SNOW, O'MARA, STEVENS & CANNADA PLLC 6075 POPLAR AVENUE SUITE 500 MEMPHIS, TN 38119				EXAMINER JAGAN, MIRELLYS
				ART UNIT 2859 PAPER NUMBER

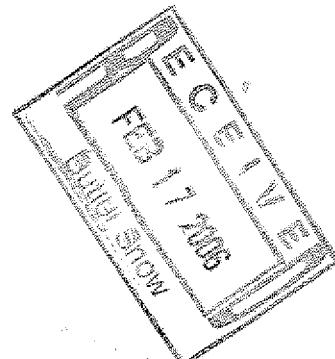
DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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FEB 21 2006

BUTLER, SNOW, O'MARA



Office Action Summary	Application No.	Applicant(s)
	10/708,571	LEE ET AL. <i>APW</i>
	Examiner	Art Unit
	Mirellys Jagan	2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 November 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 and 42-62 is/are pending in the application.
- 4a) Of the above claim(s) 1-9, 11-25 and 42-59 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 10, 26-30 and 60-62 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 November 2005 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/28/05</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Drawings

1. Color photographs and color drawings are not accepted unless a petition filed under 37 CFR 1.84(a)(2) is granted. Any such petition must be accompanied by the appropriate fee set forth in 37 CFR 1.17(h), three sets of color drawings or color photographs, as appropriate, and, unless already present, an amendment to include the following language as the first paragraph of the brief description of the drawings section of the specification:

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

Color photographs will be accepted if the conditions for accepting color drawings and black and white photographs have been satisfied. See 37 CFR 1.84(b)(2).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the ASTM-C1060-90 standard titled "Standard Practice for Thermographic Inspection of Insulation Installations in Envelope Cavities of Frame Buildings" in view of the publication titled "100's of Tips on Saving Energy and Money at Home" (www.mississauga4sale.com/newsletter/energy_saving_tips.htm) by Argentino.

Referring to claim 10, ASTM-C1060-90 discloses a method of inspecting building components, the method comprising:

creating a temperature differential of greater than 10°F between the inside and the outside of the building and maintaining it for a period of time (at least 4 hrs);

obtaining temperature profiles of an exterior building wall;

obtaining temperature profiles of the interior of a pitched roof (attic);

obtaining temperature profiles of interior building components;

assessing each profile to detect a thermal anomaly (air leakage/poor insulation) indicative of a problem with the building components; and

reporting the thermal anomaly indicative of a problem to a designated entity (see sections 1.4; 4.1; 5.1; 9.23; 9.41; 10.24; 10.241; 10.2.4.4; X2.2; and X2.4).

ASTM-C1060-90 does not disclose the particular interior building components, obtaining temperature profiles of each electrical circuit in the building, and turning on substantially all light switches and exhaust blowers in the building.

Argentino discloses that energy audits are conducted in a residential building by using an infrared camera to inspect the interior building components for poor energy efficiency. An infrared camera obtains thermal images (temperature profiles) of the detected building components, and will show the presence of air infiltration or poor thermal insulation of the building. The interior building components that should be inspected include the building's electric wires and box, all ducts, and electrical outlets and switches because these are all sources of air infiltration or poor thermal insulation of the building that will affect the energy efficiency of the building (see "Insulation" on pages 2-3; "sources of Air Leaks in Your Home" on pages 3-4; and Ducts" on pages 7-8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90 by obtaining temperature profiles of all of the electrical circuits and ducts when inspecting the interior components of the building, since Argentino teaches that these are sources of air infiltration that will affect the energy efficiency of the building

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90 and Argentino by turning on substantially all light switches when testing the electric circuits and turning on substantially all exhaust blowers when testing the ducts in order to determine the location of any thermal anomaly, i.e. the current in the electrical circuits must be active to determine the thermal anomaly in the circuits, and air must be flowing through the ducts in order to determine if there is a thermal anomaly in the ducts.

5. Claims 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over ASTM-C1060-90 in view of Argentino and the publication titled “Infrared Inspection: Sample Home Inspection” by Boldstar.

ASTM-C1060-90 discloses a method of inspecting interior building components, the method comprising:

obtaining temperature profiles of interior building components;

assessing each profile to detect an anomaly (air leakage/poor insulation) indicative of a problem.

ASTM-C1060-90 does not disclose the interior building components including all of the electrical outlets, and assessing their profiles for an anomaly indicating an electrical problem, and turning on substantially all light switches and exhaust blowers in the building.

Argentino discloses that energy audits are conducted in a residential building by using an infrared camera to inspect the interior building components for poor energy efficiency. An infrared camera obtains thermal images (temperature profiles) of the detected building components, and will show the presence of air infiltration or poor thermal insulation of the building. The interior building components that should be inspected include the building’s electric wires and box, all ducts, and electrical outlets and switches because these are all sources of air infiltration or poor thermal insulation of the building that will affect the energy efficiency of the building (see “Insulation” on pages 2-3; “sources of Air Leaks in Your Home” on pages 3-4; and Ducts” on pages 7-8).

Boldstar discloses a method of inspecting interior building components that includes obtaining temperature profiles of electrical circuits in the building (electrical panel), and

assessing the thermal profiles for an anomaly indicative of an electrical problem such as overheating, circuit overload, or connection overheating (i.e., hot wire), wherein the profiles are recorded on a digital recording device (see images).

Referring to claim 26, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90 by obtaining temperature profiles of all of the electrical outlets and ducts when inspecting the interior components of the building, since Argentino teaches that these are sources of air infiltration that will affect the energy efficiency of the building. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90 and Argentino by further assessing the profiles of the electrical outlets for an anomaly indicating an electrical problem, as taught by Boldstar, in order to determine if the circuits are overheating.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90, Argentino, and Boldstar above by turning on substantially all light switches when testing the electric circuits and turning on substantially all exhaust blowers when testing the ducts in order to determine the location of any thermal anomaly, i.e. the current in the electrical circuits must be active in order to determine a thermal anomaly in the circuits, and air must be flowing through the ducts in order to determine if there is a thermal anomaly in the ducts.

6. Claims 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over ASTM-C1060-90, Argentino, and Boldstar as applied to claims 26-30 above, and further in view of the

publication titled "Infrared Thermography, indoor Electrical Applications" by Maverick [hereinafter Maverick].

ASTM-C1060-90 discloses a method having all of the limitations of claims 60-62, as stated in paragraph 5 above, except for the switches including dimmer switches/switch plates and assessing their profiles to determine if the switches are 30°F greater than surrounding wall temperature indicating an anomaly.

Maverick discloses that a temperature difference of at least 11°C (20°F) between phases for an electrical component is a critical fault that requires immediate attention.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90, Argentino, and Boldstar by further assessing an anomaly if the temperature difference of the circuits with ambient temperature, i.e., wall, are a temperature difference of at least 11°C since Maverick teaches that a temperature difference of greater than 11°C is a critical fault that requires immediate attention. Furthermore, a temperature difference of 30°F is considered to be the "optimum" value of the temperature range of Maverick that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based on the desired accuracy and since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980). Lastly, the type of switches claimed by applicant, i.e., dimmer switches and switch plates, are considered to be the use of numerous and known alternate types of switches that a person having ordinary skill in the art at the time the invention was made would have been able to

provide using routine experimentation in order to provide an indication of a thermal anomaly as already suggested by ASTM-C1060-90, Argentino, Boldstar, and Maverick.

Response to Arguments

Applicant's arguments that the Examiner has failed to establish a prima facie case of obviousness because the cited art fails to disclose the element of "turning on substantially all light switches and substantially all exhaust blowers in said residential building", as claimed in claims 10 and 26, are not persuasive since, to establish a prima facie case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. In this case, the cited prior art teaches obtaining temperature profiles of all of the electrical outlets and ducts when inspecting the interior components of the building, and assessing the profiles of the electrical outlets for an anomaly indicating an electrical problem to determine if the circuits are overheating, wherein turning on substantially all light switches and substantially all exhaust blowers in the building when doing such tests is within the knowledge that is generally available to one of ordinary skill in the art.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2859

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 11AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

1

of

2

Complete If Known

Application Number	10/708,571
Filing Date	March 11, 2004
First Named Inventor	Peng Lee
Art Unit	2859
Examiner Name	

Attorney Docket Number 026018.50271

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
<i>PL</i>	II	Mark Gilbert, Thermal Imaging Puts Termites in the Red, National Center for Preservation Technology and Training, November, 2001	
	JJ	Jan Suskin, Taking Aim at Formosan Subterranean Termites, Agricultural Research, October, 2000, Vol. 48, No. 10, pg. 12-15	
	KK	David Rice, General Thermography, Snell Infrared Message Boards, 8 November, 2000	
	LL	Amy Spillman, Operation Full Stop: Stopping the Swarm, Agricultural Research, July, 2003 Vol. 51 No. 7, pg. 4-8	
	MM	USDA Agricultural Research Service, 2004 Annual Report	
	NN	John Snell, Thermographic Applications, Snell Infrared Message Boards, 22 July, 2002, U.S.A.	
	OO	National Park Service, FY 2004 Budget Justifications, Activity: Cultural Programs, pg. NR & P-30-44, FY 2002 pg 37	
	PP	Jon L. Grossman, IR Thermography as a Tool for the Pest Management Professional, IR Info, 2004, Proceedings Paper	
<i>V</i>	QQ	Ken James, Finding Termites with Thermal Imaging, Infra Mation 2002, Sept. 29-Oct. 2, 2002, Orlando, Florida	
<i>V</i>	RR	Bill Craft, Re: Locate Hidden Termite Damage, Snell Infrared Message Boards, 27 December, 1997	

Examiner Signature

Date Considered

2-6-06

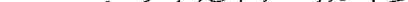
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¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.
 This collection of information is required by 37 CFR 1.58. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT				<i>(Use as many sheets as necessary)</i>	
Sheet	2	of	2	Attorney Docket Number	026018-50271
				Application Number	10/708,571
				Filing Date	March 11, 2004
				First Named Inventor	Peng Lee
				Art Unit	
				Examiner Name	

NON-PATENT LITERATURE DOCUMENTS

Examiner Signature		Date Considered	2-6-04
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***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.